

REMARKS:

Claims 12, 14, 35-37, 39-45, 47-50, and 52-53 are being cancelled herein without prejudice. Applicants reserve their right to file another application to these deleted claims.

The cancellation of these claims makes moot the outstanding 35 USC §112 rejection of those claims.

Claims 1, 2, 5-12, 15 and 17-23 stand rejected under 35 USC §112, second paragraph. The Examiner has remarked that "washing station" in claim 1 should be "rinsing facility". This terminology is supported by original claim 16, the original specification at paragraph [0033] and the amendments filed on March 31, 2010.

Claim 1 has been amended in accordance with the Examiner remark. The 35 USC §112 rejection of those claims should now be overcome.

It needs to be pointed-out that applicant's invention has two different types of rinsing facilities. The first rinsing facility rinses a contacting electrode. See original claim 16 and the publication at [0033]. The second rinsing facility rinses the strip being processed. See the publication at [0057] and [0061]. The prior art only teaches the second type of rinsing facility. The first type of rinsing facility, for a contacting electrode, is neither shown nor suggested in the prior art.

Remaining claims 1, 2, 5, 8-11, and 17-23 stand rejected under §35 USC 103(a) as obvious over Hartman et al. (US 5425862) when read with a new reference, Lovejoy (US 4324633).

Remaining claims 6-7 stand rejected under §35 USC 103(a) as obvious over Hartman et al. when read with Lovejoy and Hirt et al. (US 4282073).

Remaining claim 15 stands rejected under §35 USC 103(a) as obvious over Hartman et al. when read with Lovejoy and Avellone (US 4401523).

Hartmann is relied upon for teaching each of the elements recited in independent claim 1, *except for*:

An apparatus for treating a continuous strip material comprising a rinse tank (12) housing a plurality of contact rollers (18) which establishes electrical connection with the strip as it travels through the tank (col. 1, line 60 - col. 2, line 5). One or more spray nozzles are mounted in the upper portion of the chamber for spraying water or a suitable rinse solution on the strip (col. 3, lines 13-16).

Lovejoy is relied upon for this structure.

The rejection of claim 1 is respectfully traversed.

The Examiner bases the rejection on a combination of documents, namely Hartmann in combination with Lovejoy. Hartmann et al. do not teach "element e)" of claim 1, i.e., applicants' invention comprises a contacting electrode rinsing facility (washing station) disposed adjacent to a contacting electrode (6, 14), from which said contacting electrode (6, 14) is washed or sprayed.

The Examiner has remarked that Lovejoy teaches an electrolytic apparatus for treating a continuous strip material comprising a rinse tank housing a plurality of contact rollers which establishes electrical connection with the strip as it travels through the tank, wherein one or more spray nozzles are preferably mounted in the upper portion of the chamber for spraying water or a suitable rinse solution on the strip.

Having recited this, the Examiner then offers that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the rinse tank of Lovejoy for rinsing the contacting electrodes of Hartmann because it (the rinse tank) would wash the contacting electrodes of Hartmann, thus minimizing corrosion to the contacting electrodes. This is because Hartmann uses sulfuric acid, and sulfuric acid is known to corrode metals.

The Examiner's first premise cannot lead to the conclusion drawn.

Lovejoy does not teach a contacting electrode rinsing facility (washing station). Such station must be designed and arranged to be able to rinse the contacting electrodes. Otherwise it would not be a contacting electrode washing station. Lovejoy is silent to rinsing

his contact roller assembly. Lovejoy simply states: "One or more spray nozzles (not shown) are preferably mounted in the upper portion of the chamber for spraying water or a suitable rinse solution on the strip". In Lovejoy, water or the suitable rinse solution is used to rinse the strip but not the contacting electrodes. Therefore, there is no teaching in Lovejoy, as would be required, that a contacting electrode is rinsed.

The Examiner's second argument is incorrect:

The Examiner refers to Hartmann, (column 12, lines 32-34) in stating that the electrolyte of Hartmann contains sulfuric acid. The electrolyte in the Hartmann et al. reference is an acidic copper plating solution which *inter alia* contains copper ions and sulfuric acid.

Contrary to the Examiner's argument, a person of ordinary skill in the art will be well aware of the fact that the bonding devices of Hartmann cannot corrode because they are biased by a current source to be negative with respect to counter electrodes located inside the electroplating chambers, by being in contact with the negative pole of a circuit arrangement which generates the electroplating voltage (Hartmann et al., column 8, lines 40-44). This negative potential at the bonding devices securely prevents corrosion of the bonding devices.

Furthermore, a person with ordinary skill in the art knows that contacting electrodes are typically made of titanium. This material is very resistant to any chemical attack including sulfuric acid. Therefore, rinsing of the contacting electrodes is not required when relying on this fact.

Furthermore, Lovejoy uses his spray nozzles inside the rinse tank and not outside. If Lovejoy would use the spray nozzles outside his rinse tank, rinsing could not be performed inside the rinse tank and the rinse tank would no longer be a rinse tank (for the strip material).

Consequently, as rinsing in the Lovejoy apparatus refers to the strip material, one of ordinary skill in the art would not locate the spray nozzles outside the electroplating chamber

of Hartmann and furthermore, would not use the spray nozzles of Lovejoy for rinsing the Hartmann's bonding devices.

Therefore, a person skilled in the art will not be motivated to use the spray nozzles of Lovejoy in the apparatus of Hartmann and furthermore would not be motivated to use the spray nozzles to rinse the bonding devices of Hartmann. To do so would render such a combination device "in operative" for its intended purpose.

Therefore, it must now be considered that the invention as recited by claim 1 is unobvious and patentable over the combination of Hartmann and Lovejoy.

Applicants believe that a generic claim is now allowable. Upon such allowance, the request the opportunity to reinsert the withdrawn claims 24-25 and 28-34 to depend from an allowable claim.

It is requested that the application be re-examined and the claims presented herein above for examination be allowed.

No additional fees are believed to be required. In the event that an additional fee is required with respect to this communication, the Commissioner is hereby authorized to charge any additional fees, or credit any overpayment, to Paul & Paul Deposit Account No. 16-0750. (order no.8414)

Respectfully submitted,
Paul & Paul

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